Self-sufficient pasture-based farms enhance economic performance and provision of ecosystem services

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Sheep farming systems in the Euro-Mediterranean basin are usually located High Nature Value (HNV) areas and generally imply the use of local breeds. We aimed to unveil possible relationships between key farm technical/economic parameters and management practices, and their potential environmental implications. Firstly, we surveyed 30 mixed cereal-sheep farms rearing a local breed (Ojinegra, in North-West Spain). Data regarding farm structure, management, economic and social aspects were collected through direct interviews to farmers. Secondly, we performed a deliberative research (focus groups, n=5) to identify the perceptions of farmers and other citizens on the most important ecosystem services delivered by livestock production in HNV areas. A principal components and cluster analysis allowed to identify relationships among variables and classify farms into four homogeneous groups: intensive (high use of inputs); feed self-sufficient (great reliance on grazing); specialized (lamb meat as main or unique income); diversified (agriculture as predominant income). Feed self-sufficiency and reliance on natural resources (i.e. grazing) greatly determined the economic profitability of the farms, due to lower variable costs (i.e. feed inputs). The response of ewe's productivity to the intensification of production (i.e. higher variable costs per ewe) was minimal, which can be explained by limited breeding potential of the breed and/or, inefficient management. According to the focus groups, grazing management was perceived as a key agricultural practice, which in combination with other practices, could prevent forest wildfires, contribute to biodiversity conservation, and provide food products with inherent higher quality. We conclude that feed self-sufficiency in these particular conditions should be a target for future research due to its link to the farm economic performance and the provision of ecosystem services.

Drivers of the competing use of land: the case study of the pheripheral zone of the National Park W

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The National Park of W is a nature reserve shared between Burkina Faso, Niger and Benin and where nature, pastoralism and crop production compete for the use of land and water. The present study aims at assessing the extent of the competition for land and water in the zone adjacent to the park and to analyze some important drivers. Data were collected from secondary literature and interviews with pastoralists, farmers and park authorities. It was found that the increase of cotton cultivation put pressure on crop lands and grazing lands for production of food crops and livestock grazing. This was facilitated by the introduction of animal-drawn cultivation and conversion of the banks of the Niger River from communal grazing lands with access to water to crop lands. Traditional grazing lands are also converted to crop lands to feed the growing population. As a result pastoralists moved illegally inside the park to sustain the feed of the animals, as well as some crop farmers. After a reinforcement of the park management laws by rangers, that forbidden grazing inside the park, grazing lands largely diminished and the total number of livestock of pastoralists in the region has declined. Since livestock is still important for livelihood of smallholders and for sustainable food crop production, there is a need for innovative strategies to integrate crop production, livestock production and conservation.

Poster Session 34

Session 35. Future challenges and strategies for smallholders

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